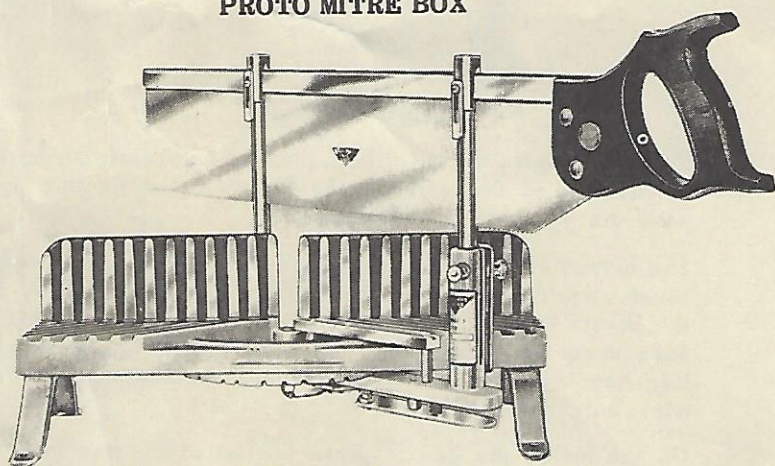


INSTRUCTIONS AND PARTS LIST FOR SETTING UP AND OPERATING

PROTO MITRE BOX

PROTO MITRE BOX



"PROTO" Mitre Box

NO. 931 - 24 x 4 Saw

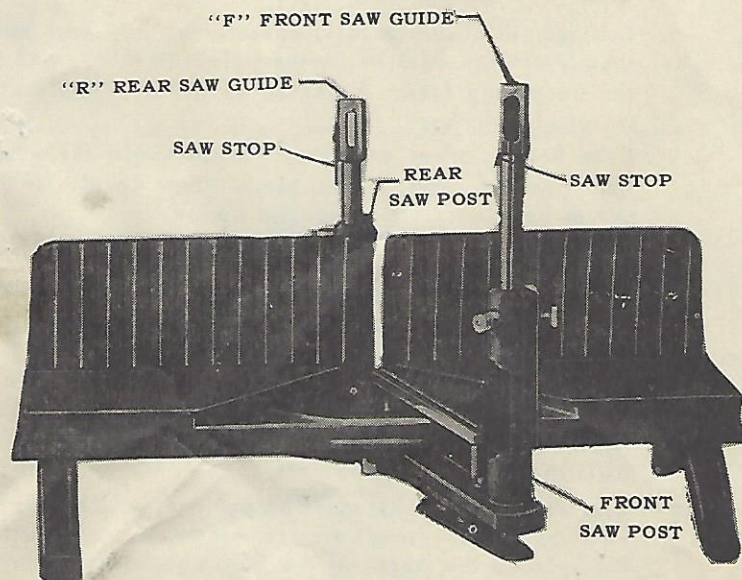
This Mitre Box is a fine machine for cutting angles in wood. It has a rugged one piece cast iron bed and Backs. Saw Guide, Swinging Lever, and Legs are of Steel.

The capacity of this Mitre Box is 8 $\frac{3}{4}$ inches at Right Angles and a full 6 inches at either Mitre.

— IMPORTANT —

Read This Booklet Carefully!

You have purchased a valuable piece of equipment. With the proper care and use it will give you many years of trouble-free and dependable service. SPEND THE 20 MINUTES REQUIRED TO READ THESE INSTRUCTIONS. Learn how to assemble it and how to operate it properly before you saw your first piece of wood.



SAW GUIDES

Insert Saw Guides in the proper Saw Posts. The Saw Guide marked "F" should be inserted in the Front Post also marked "F", nearest the operator. The Saw Guide marked "R" should be inserted in the Rear Post marked "R", farthest from the operator.

Make sure the Bearing Surfaces are clean by working the Guides up and down inside the Posts several times.

Insert the Saw carefully through the front and rear Saw Guides. Make sure the Saw Teeth do not contact any part of the Mitre Box. The Saw Teeth should clear the bottom of the groove in the Gib with the proper clearance.

SAW STOPS

It is necessary for the owner to set the adjustable Saw Stops on Box. This is also required when Saw is resharpened. Resharpening diminishes the Saw height.

To adjust, loosen the saw Stop Screws. Lower the Saw carefully as far as it will go. Set Saw Stops so that Saw clears bottom of groove in Gib, and is still below the surface of Bottom Plates. Tighten Saw Stop Screws. With proper adjustment the Saw Teeth will not touch the bottom of the groove but will complete the Saw Cut.

ELEVATORS

The Saw must be raised to allow work to be entered underneath it. It is held in the raised position by means of Elevators. These are located on the left side of each Saw Post.

To raise the Saw, grasp the Saw midway between the two Saw Guides and lift until both Elevators click. The Saw will stay in this position. To drop the Saw, push down on the top of each Saw Guide with the palm of the hand. Be careful not to "slam" Saw on work.

The holding power of the Elevators can be adjusted to suit the operator. Merely turn the Knurled Nut on the Elevator provided for this purpose.

DEPTH GAGES

Depth Gages are mounted by means of Knurled Screws on the right side of each Saw Post. They are used to limit the depth of Saw cut.

The Saw must be in the raised position to adjust the Depth Gages. Insert a piece of wood equal in thickness to the height the Saw is to stop above the Bottom Plates. Gently lower the Saw on the wood. Raise Depth Gages up to the Shoulder of each Saw Guide, and tighten Knurled Screws. Raise the Saw and remove wood. The Saw should now cut to the depth desired.

SWINGING LEVER

The Saw Guides carrying the Saw, and the Posts in which the Saw Guides operate, are all part of the Swinging Lever. From the Right Angle (or Square) this Lever swings horizontally 45° right (right Mitre) and 45° left (left Mitre).

The Lever Clamp must be loose to swing the Lever. This is accomplished by turning the clamp clockwise as far as it will rotate.

To set the Saw at a desired Angle, pull the Locking Lever up with the forefinger while the thumb is on the Lever. This disengages or prevents engagement of the Locking Pin (Index pin) with Notches in the Arc. The Swinging Lever will traverse freely only if locking Pin is disengaged.

The Swinging Lever slides on the bottom of the Arc. The Notches are for rapid setting of frequently used angles. Notches are at 0 (Right Angle) 9°, 22½°, 30°, and 45° (Mitre) right or left.

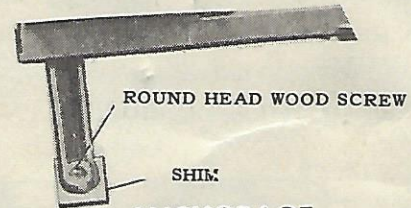
To use the Automatic Index, merely release the Locking Lever at a Notch. The Locking Pin will drop into the Notch.

The Swinging Lever on the No. 931 Mitre Box is made in

LEVER CLAMP

The Swinging Lever is locked to the Bed by means of a Lever Clamp. Locking is accomplished by rotating the Lever Clamp in a counterclockwise direction.

The Swinging Lever should be locked to the Bed during sawing operations. This also applies to quick angle adjustments where the Locking Pin is engaged with a Notch in the Arc. If Lever is not locked, the angle setting is apt to be changed by the work accidentally "bumping" into Saw or Post. BE SAFE, assure a true and accurate cut.



For best results the Mitre Box should be securely anchored or fastened to the work bench. Screw holes for this purpose are provided in the Legs.

The bottom of the Legs are ground flat at the factory. The bench should also be flat so that all Legs rest solidly on it. Should the Box rock, place a "Shim" of the right thickness under the proper leg. A box screwed down with a Leg needing a Shim will be warped. A warped Box will not cut accurately.

Do not fasten the Box to green lumber which may warp or shrink later.

SAW

The Saw is the heart of the Mitre Box. The Saw purchased with Box is of high quality. No two Saws will cut the same even through new.

This Mitre Box is a precision, hand operated Machine for cutting Angles in wood. It is intended for cutting clear straight lumber, free of knots and other defects.

A Mitre Box purchased without Saw may or may not cut accurately, consequently it cannot be guaranteed. The Saw should be kept sharp and only a qualified expert should do the refiling and resetting. Reset Saw Stops after refiling.

For smooth accurate cuts, operate the Saw with moderate steady strokes. Allow only the weight of the Saw to furnish the necessary feed. Pressure on the Saw tends to throw it out of alignment.

Keep Saw in prime condition. When not in use, remove it from Box and hang in safe place. Saw should be oiled if not to be used for a prolonged period.

LUMBER

Two adjacent sides of the stock to be cut must be absolutely straight and flat; their included angle exactly square or 90°. These two surfaces must contact both backs and Bed Plates of the Box. Hold stock securely while cut is made. Accurate cuts are made only on accurate stock. DO NOT EXPECT ACCURATE CUTS ON WARPED OR CROOKED LUMBER.

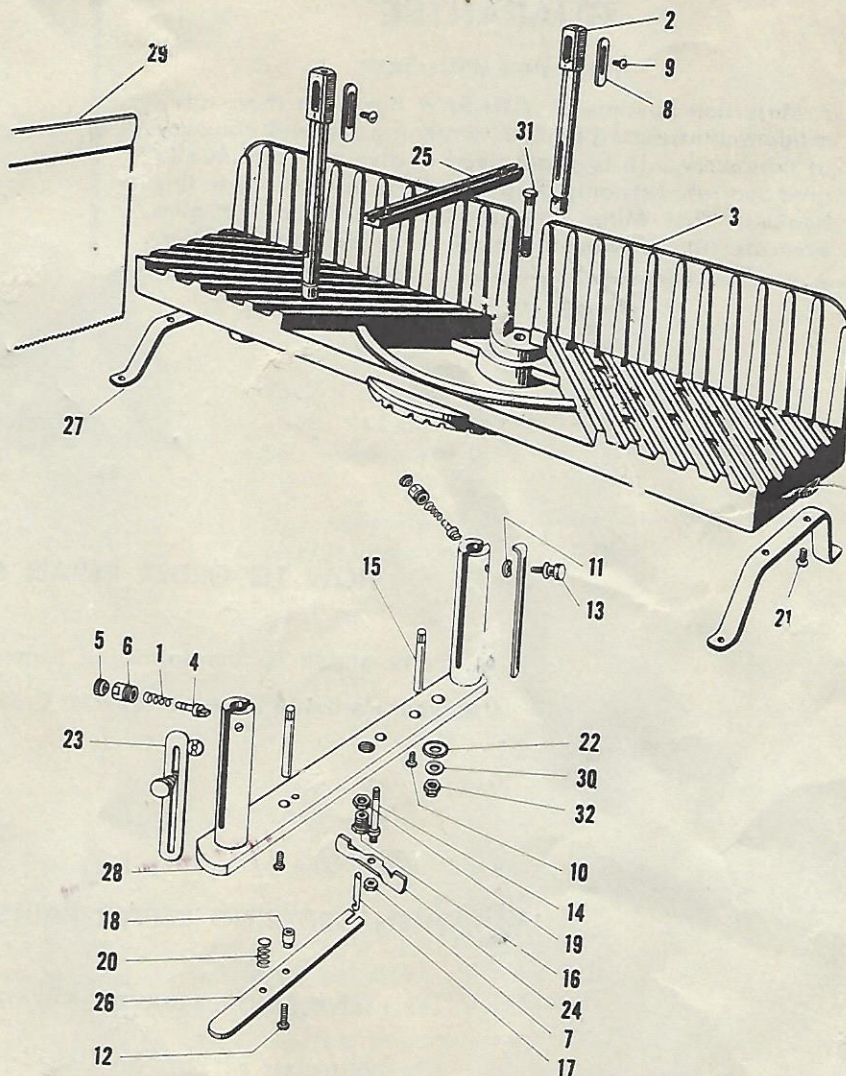
The same stock Edge must be against the Backs while all cuts are made. Never turn the work over, or end for end, but reverse the Angle of the Saw when necessary.

All the above conditions must be met, otherwise the result will be an inaccurate cut. Sawing through knots may sometimes be necessary and this may cause the Saw to spring

PARTS LIST FOR
PROTO MITRE BOX

With Saw
No. 931 - 24 x 4 Saw

PART NO.	KEY NO.	DESCRIPTION
1	2043	Elevator Spring
2	4590	Saw Guide (2)
3	5220	Bed
4	11348	Elevator Plunger (2)
5	11349	Elevator Nut (2)
6	11350	Elevator Bushing (2)
7	15060	Hex Nut Locking Lever
8	16304	Saw Stop (2)
9	16305	Saw Stop Screw (2)
10	16318	Gib Plug Screw (2)
11	16320	Depth Gage Bent Washer (2)
12	16597	Locking Lever Screw
13	16847	Depth Gage Screw (2)
14	16864	Binding Screw
15	16865	Gib Plug (2)
16	16871	Locking Pin Bushing
17	16872	Locking Pin
18	16873	Locking Lever Bushing
19	16874	Locking Pin Bushing Check Nut
20	16876	Locking Lever Spring
21	16878	Leg Screw (4)
22	16984	Kingbolt Spring Washer
23	25023	Depth Gage (2)
24	25352	Locking Lever Clamp
25	25359	Gib
26	25361	Locking Lever
27	3114-01	Legs (2)
28	32652	Lever Sub Assembly
29	40022-09	24 x 4 Saw
30	104385	Kingbolt Washer
31	104743	Kingbolt
32	105080	Kingbolt Nut



SHOP KEEPING

1. If Lever binds or sticks, add few drops of oil (wipe off excess) between Swinging Lever and Mitre Box Bed at King Bolt junction and bottom of Arc.
2. Never oil Saw Guides or Saw during use. Saw dust will cause them to stick and bind.
3. Prevent damage to Saw by hanging it in a safe place when not using.
4. Oil Saw Guides, Saw and Machined Surfaces on Bed only when Box is not to be used for a prolonged period.
5. Make sure Swinging Lever is locked to Bed by means of Lever Clamp before making cut. This is to insure against accidentally changing angle.
6. Keep Saw sharp. Refiling and resetting should only be done by a qualified expert.
7. Never apply pressure to Saw. Allow only weight of Saw to furnish necessary feed.
8. Two adjacent surfaces of stock must be straight and flat and their included angle exactly square or 90°. They must contact both Backs and Bottom Plates.
9. Stock must be held firmly against Backs and Bottom Plates while sawing.
10. Same edge of stock must be against and contact Backs of Bed while all cuts are made. Never turn over, or end for end, work but reverse the angle of Saw when necessary.
11. Do not expect accurate cuts on warped or crooked lumber. Accurate cuts are made only on accurate lumber.
12. Never file Index Notches on Bottom of Arc or Locking Pin which engages Notches.
13. Never attempt to reset Locking Pin Bushing. It has been properly set at the Factory.

GUARANTEE

Mitre Box with Saw

A Mitre Box purchased WITH SAW has been thoroughly tested and inspected both for workmanship and accuracy at the factory. It is guaranteed to give and continue to give accurate cuts only if operated per instructions in this booklet. The Mitre Box is NOT guaranteed to give accurate cuts on warped, crooked, or defective lumber.

CLAIMS

No claims for inaccuracy or repair be allowed if this Mitre Box has been abused or tampered with, or has been operated contrary to this instruction booklet. Should a Box be returned for supposed inaccuracy, the Saw used with it and a sample of work (minimum length 12 inches) with inaccurate cut must be included.

HOW TO ORDER REPAIR PARTS

All parts shown on the following pages may be ordered from your Hardware Dealer or by Mail Order from the factory.

WHEN ORDERING REPAIR PARTS ALWAYS: —

1. Give Model Number of Mitre Box.
2. Number of Part on List.
3. Name of Part on List.
4. How many each part desired.
5. Your name and address (please type or print clearly).

PROTO TOOL COMPANY

Los Angeles, California 90054